REMARKS

Claims 1-24 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 102 Rejections:

The Office Action rejected claims 1-4, 9-12, 16-20 and 24 under 35 U.S.C. § 102(b) as being anticipated by Wold et al. (U.S. Patent No. 5,386,568) (hereinafter "Wold").

Regarding claim 1, the Examiner states, "Wold disclosed a method and system for linking software modules together… Each software module communicated with other software modules through a plurality of associated input and output objects, thus providing message gates as claimed." Applicants disagree with the Examiner's interpretation of Wold. Wold discloses the use of input and output objects to facilitate single direction data transfers from an output object to an input object (Wold, column 5, lines 65-68; column 7, lines 3-7, and Figure 11). Wold does not teach that each message gate is configured for sending and receiving messages. Wold discloses that messages between an output object and an input object consist of a single data type and its value (Wold, column 7, lines 56-62). Wold does not disclose the sending and receiving of messages in a data representation language. Wold teaches that a single output object may send messages to multiple input objects (Wold, column 8, lines 4-7, and Figure 4). Hence, Wold does not teach having each message gate configured for sending and receiving messages to and from a respective paired message gate.

The Examiner further states, "Wold disclosed the ability to connect software modules across a network between different devices. Wold further disclosed the use of a protocol for such a network, for which a software module would determine the address of a remote device, provide a transport reference as claimed." Applicants disagree with the Examiner's interpretation of Wold. Wold does not disclose that each of the message gates references the message transport. Wold only teaches that "a programmer may have to provide a communications software module in each processor that handles the details of determining the address of all remote system devices" (Wold, column 11, lines 16-19) and that remote addresses must be derived (Wold, column 8, lines 7-11). Applicants submit that under Wold, neither output nor input objects reference a message transport. Conversely, Wold describes a system wherein output objects are passed as a parameter to a "Send a Message" function that takes care of transferring the actual messages to input objects (Wold, column 7, line 50 – column 8, line 7). Applicants further assert that Wold does not disclose that each message gate is configured to send and receive messages independently of the other ones of the message gates while sharing the message transport. Wold discloses using a single "Send a Message" that is passed the relevant output object and "passes a copy of the message to each Input object listed in the table of input of the specified Output object" (Wold, column 3, lines 10-17, and Figure 4). Applicants submit that under Wold messages must necessarily be coordinated across output objects and sent sequentially through the "Send A Message".

Applicants submit that Wold does not disclose a plurality of message gates, wherein each message gate is configured for sending and receiving messages for one of said clients in a data representation language to and from a respective paired message gate at another device in the distributed computing environment. Applicants further submit that Wold does not disclose a system wherein each one of said message gates references said message transport, wherein each message gate is configured to send and receive messages independently of the other ones of said message gates while sharing said message transport.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 9 and 17.

Regarding claim 2, the Examiner states, "Wold disclosed verifying the data type of a transmitted message according to a table of actions." Applicants disagree with the

Examiner's interpretation of Wold. Applicants submit that Wold fails to teach that each message gate is configured to verify messages according to a data representation language message schema. Wold teaches that "[w]hen messages are sent from an Output object, the data type of the message being transmitted is checked against the table of actions of each Input object listed in the table of inputs of the Output object. Only data type matches cause an Action to be executed" (Wold, column 10, lines 5-10). Applicants assert that a table of actions does not constitute a data representation language message schema.

In light of the above remarks, Applicants assert that the rejection of claim 2 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 2 apply to claims 3-4, 10-12 and 18-20.

Regarding claim 16, the Examiner states, "Wold disclosed naming input and output objects, where the name could include an address or location pointer." Applicant disagrees with the Examiner's interpretation. Wold fails to teach <u>binding a first gate name</u> for the first message gate <u>to a transport reference</u> for the message transport, wherein the first message gate is configured to receive messages at an <u>address including a combination of said first gate name and the transport reference</u>. According to Wold, object names are parameters to the "Add an Action" function (Wold, column 6, lines 52-60). Wold also teaches that "[t]he 'Add an Action' library function may be called repeatedly for an particular Input object to specify additional data types and corresponding actions" (Wold, column 7, lines 10-13). Hence, under Wold, the naming of input and output objects is used to associate specified actions with particular messages.

Also regarding claim 16, Wold teaches that a programmer should "provide a communications software module in each processor that handles the details of determining the address of all remote system devices" (Wold, column 11, lines 16-19) and that remote addresses must be <u>derived</u> (Wold, column 8, lines 7-11). Therefore, Applicants submit that Wold fails to teach binding a first gate name for the first message gate to a transport reference for the message transport, wherein the first message gate is configured to receive messages at an address including a combination of said first gate name and the transport reference.

In light of the above remarks, Applicants assert that the rejection of claim 16 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 16 apply to claims 24.

Claims 1, 9, 16, 17 and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hill et al. (U.S. Patent No. 5,511,197) (hereinafter "Hill").

Regarding claim 1, the Examiner states, "The stub and proxy objects send a received messages, acting as message gates as claimed." Hill discloses stub and proxy objects that implement remote procedure calls and communicate through the marshalling and unmarshalling of pointers, method names and parameters into messages by inserting their actual values in the message (Hill, column 1, lines 25-45; column 7, lines 19-25; column 8 lines 20-23). Hill discloses storing copies of actual values in a message as well as converting from one data format to another (Hill, column 1, lines 40-47), but Applicants can find no reference to Hill disclosing a system wherein each message gate is configured for sending and receiving messages for one of the clients in a data representation language.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 9 and 17.

Claims 1-4, 8-12, 15, 17-20 and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Serlet et al. (U.S. Patent No. 5,481,721) (hereinafter "Serlet").

Regarding claim 1, the Examiner states, "A proxy object provided a way to send and receive messages on behalf of object, thus providing message gates as claimed."

Serlet discloses proxies that communicate through Mach messages (Serlet, column 9, lines 20-25). A Mach message contains "a header followed by zero or more data objects. For efficiency, large array arguments are passed out-of-line with copy-on-write semantics" (Serlet, column 9, lines 5-9). Serlet teaches that "[t]he argument encoding for standard C data types is explicit and strictly pass-by-value, and maps substantially directly onto a Mach message (Serlet, column 12, lines 46-49). Therefore, Applicants submit that Serlet does not disclose a system wherein each message gate is configured for sending and receiving messages for one of the clients in a data representation language as recited in Applicants' claim 1.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 9 and 17.

Claims 1-4, 8-12, 15, 17-20 and 23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Marcos et al. (U.S. Patent No. 6,347,342) (hereinafter "Marcos").

Regarding claim 1, the Examiner states, "A connection between client objects and server objects was created through proxy and stub objects, which allowed for sending and receiving messages, thus providing message gates as claimed." Applicants submit that Marcos does not disclose a system wherein each message gate is configured for sending and receiving messages for one of the clients in a data representation language. Marcos teaches using a distributed object model or protocol to forward messages (Marcos, column 6, line 66 to column 7, line 3). Marcos discloses using code that will "encode and decode an operation and its parameters into a compacted message format" (Marcos, column 2, lines 12-14) which the mediating component translates or maps from one object model to another (Marcos, column 7, lines 16-24). Applicants submit that Marcos does not disclose that each message gate is configured for sending and receiving messages for one of said clients in a data representation language.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 9 and 17.

Regarding claim 2, the Examiner states, "Marcos disclosed proxy and stub objects to have the ability to verify object type." Applicants disagree with the Examiner's interpretation of Marcos. Marcos fails to teach verifying messages according to a data representation language message schema. Marcos discloses using messages comprising methods and method arguments (Marcos, column 6, lines 62-63; column 4, lines 23-25; column 15, lines 27-28; column 15, lines 64 – column 16, lines 4). Marcos teaches translating arguments from one object model to another (Marcos, column 16, lines 42-50). Applicants can find no reference in Marcos to a data representation language message schema. Hence, according to Marcos, the type of an argument from one object model is compared with an expected type in another object model, but Applicants submit that Marcos fails to teach a system wherein each message gate is configured to verify messages according to a data representation language message schema.

In light of the above remarks, Applicants assert that the rejection of claim 2 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 2 apply to claims 3-4, 10-12 and 18-20.

Claims 1, 6-9, 14-17 and 22-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kingdon (U.S. Patent No. 5,349,642).

Regarding claim 1, the Examiner states, "Kingdon disclosed a method and system for client/server communication. A client and server made use of client and server stubs connected to a transport for communicating with each other, thus providing paired message gates as claimed." Applicants submit that Kingdon does not disclose a system wherein each message gate is configured for sending and receiving messages for one of the clients in a data representation language. Kingdon teaches using a specific message packet format consisting of a length header, a request code representing the particular type of procedure being requested by the client, and data (Kingdon, column 5, lines 27-36, and Figure 3A). Applicants can find no reference to Kingdon teaching the use of a data representation language. Applicants submit that Kingdon does not disclose a system wherein each message gate is configured for sending and receiving messages for one of the clients in a data representation language.

In light of the above remarks, Applicants assert that the rejection of claim 1 is not supported by the cited art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 1 apply to claims 9 and 17.

Applicants also assert that numerous other ones of the dependent claims recite further distinctions over the cited art. Since the rejection has been shown to be unsupported for the independent claims, a further discussion in regard to the remaining dependent claims is not necessary at this time.

Section 103(a) Rejection:

The Office Action rejected claims 5, 13 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Marcos, and further in view of Bergman et al. (U.S. Patent No. 6,564,263) (hereinafter "Bergman"). Applicants assert that the rejection of claims 5, 13 and 21 is unsupported by the cited art for at least the reasons given above in regard to their respective independent claims.

Furthermore, in regard to claim 5, the Examiner states, "While Marcos did not specifically mention the use of XML, it would have been obvious to one of ordinary skill in the art to consider the use of such a format, as Bergman disclosed XML to be both portable, independent of operating environment, and advantageous for linking different modalities of content." Applicants disagree with the Examiner. Marcos fails to teach a system wherein each message gate is configured to verify messages according to a data representation language message schema, wherein the data representation message schema comprises an eXtensible Markup Language (XML) schema. Marcos teaches using a mediating component that "identifies the expected method specification and arguments for the server" (Marcos, column 6, lines 62-63) and "performs any necessary message translation" (Marcos, column 4, lines 18-23). Also, Marcos uses a proxy object that "determines the expected method identification and the number and type of arguments for the server object" (Marcos, column 4, lines 23-25). Under Marcos, the mediating component "carries out dynamic translation at run-time" (Marcos, column 7, lines 22-23).

Applicants submit that Marcos teaches the translation of method invocations and arguments, hence code, between two object models. Applicants can find no teaching in Marcos wherein each message gate is configured to verify messages according to a data representation language message schema, and wherein the data representation language schema comprises an eXtensible Markup Language (XML) schema.

Bergman discloses XML as "a tagged markup language for representing hierarchical, structured data" (Bergman, column 14, lines 12-14) and that "XML is useful for specifying and maintaining relationships between different modalities and versions, etc. of content" (Bergman, column 14, 20-22) (emphasis added). Applicants can find no reference in Bergman regarding using XML to represent method specifications or function arguments. Applicants assert that it would be counterintuitive to use XML to represent code such as the method invocations disclosed in Marcos. In the prior art, such as Bergman, XML is used to represent hierarchical, structured data (i.e. content), not to translate code, such as the translated method invocations in Marcos.

Applicants respectfully remind the Examiner that "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." M.P.E.P. § 2143.01, paragraph 3. As explained above, the teachings of Bergman in regard to using XML to represent data content does not suggest using XML for the method invocations of Marcos.

In light of the above remarks, Applicants assert that the rejection of claim 5 is not supported by the prior art and withdrawal of the rejection is respectfully requested. Similar remarks as discussed above in regard to claim 5 apply to claims 13 and 21.

CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-64200/RCK.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

□ Petition for Extension of Time

□ Notice of Change of Address

□ Fee Authorization Form authorizing a deposit account debit in the amount of $ for fees ( ).

□ Other:

Respectfully submitted,

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Date: February 27, 2004